cl	(Twice Amended) 15.	A resistor array comprising:
	a plurality	of resistors each comprising a metallic bulk base;
5	disposed of each of sai	of electrodes composed of conductive material lirectly on said metallic bulk base for connecting d resistors to external circuits wherein said alk base between every two of said electrodes
		recisely controlled distance for providing a
10		lefined resistance for each of said resistors.
	(Twice Amended) 16. comprising:	The resistor array of claim 15 further
	at least an	electrode layer of a different conductive material
15	disposed o	on each of said electrodes.
	(Twice Amended) 17. comprising:	The resistor array of claim 15 further
·	a plurality	of scribing lines disposed between said resistors
20	for scribin	g said resistor array into a plurality of resistors
	each comp	orising at least two electrodes for connecting each
	of said res	istors to external circuits.
25	(Twice Amended) 18.	The resistor array of claim 15 wherein:
20	said metal	lic bulk base comprising a nickel-copper alloy.
	(Twice Amended) 19.	The resistor array of claim 15 wherein:
30	each of sai	d electrodes further comprises a copper layer and

a tin-lead alloy layer.

(Twice Amended) 20. The resistor array of claim 15 wherein: said precisely defined resistance for each of said resistors ranging approximately from one milli-ohm to one ohm. 5 (Twice Amended) 21. The resistor array of claim 15 wherein: said metallic bulk base of each of said plurality of resistors having a thickness ranging approximately from 0.05 to 0.5 10 millimeters and a length ranging approximately from 1.0 to 7.0 millimeters. (Twice Amended) 22. The resistor array of claim 15 wherein: 15 each of said plurality of electrodes disposed directly on said metallic bulk base having a width and length ranging approximately from 0.1 to 3.2 millimeter, a height ranging approximately from 0.05 to 0.5 millimeters and distance ranging approximately from 0.4 to 6.2 millimeters between 20 every two electrode columns. (Twice Amended) 23. A resistor array comprising: a plurality of resistors each comprising a metallic bulk base; 25 a plurality of column-shaped electroplated electrodes disposed directly on said metallic bulk base for connecting each of said resistors to external circuits and having a precisely controlled distance between every two of said 30 electrodes for providing a precisely defined resistance for each of said resistors.

	(Twice Amended) 24. comprising:	The resistor array of claim 23 further		
5	for scribing each comp	of scribing lines disposed between said resistors g said resistor array into a plurality of resistors rising at least two electrodes for connecting each stors to external circuits.		
10	(Twice Amended) 25.	The resistor array of claim 23 wherein:		
10	said metallic bulk base comprising a nickel-copper alloy.			
	(Twice Amended) 26.	The resistor array of claim 23 wherein:		
15	electrodes	d plurality of column-shaped electroplated disposed directly on said metallic bulk base mprises a copper layer and a tin-lead alloy layer.		
20	(Twice Amended) 27.	The resistor array of claim 23 wherein:		
	-	ely defined resistance for each of said resistors oproximately from one milli-ohm to one ohm.		
25	(Twice Amended) 28.	The resistor array of claim 23 wherein:		
23	having a th	lic bulk base of each of said plurality of resistors nickness ranging approximately from 0.05 to 0.5 s and a length ranging approximately from 1.0 to eters.		
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(Twice Amended) 29. The resistor array of claim 23 wherein:

> each of said plurality of column-shaped electrodes disposed directly on said metallic bulk base having a width and length ranging approximately from 0.1 to 3.2 millimeter, a height ranging approximately from 0.05 to 0.5 millimeters and distance ranging approximately from 0.4 to 6.2 millimeters between every two electrodes.

10 (Twice Amended) 30. A resistor comprising:

a metallic bulk base;

at least two electrodes composed of a conductive material disposed directly on said metallic bulk base for connecting said resistor to external circuits and having a precisely controlled distance between said two electrodes for providing a precisely defined resistance for said resistor.

20 (Twice Amended) 31. The resistor of claim 26 further comprising:

at least an electrode layer of a different conductive material disposed on each of said electrodes.

(Twice Amended) 32. The resistor of claim 30 wherein:

said metallic bulk base comprising a nickel-copper alloy.

The resistor of claim 30 wherein: (Twice Amended) 33.

> each of said electrodes further comprises a copper layer and a tin-lead alloy layer.

> > June 18, 2003

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	(Twice Amended) 34.	The resistor of claim 30 wherein:
5		y defined resistance for said resistor ranging ly from one milli-ohm to one ohm.
	(Twice Amended) 35.	The resistor of claim 30 wherein:
10	ranging appr	bulk base of said resistor having a thickness roximately from 0.05 to 0.5 millimeters and a ng approximately from 1.0 to 7.0 millimeters.
	(Twice Amended) 36.	The resistor of claim 30 wherein:
4-		electrodes disposed directly on said metallic
from 0.05 to 0.5 millimeters and distance ra		.2 millimeter, a height ranging approximately 0.5 millimeters and distance ranging ely from 0.4 to 6.2 millimeters between every two
20	electrode col	umns.
	(Twice Amended) 37.	A resistor comprising:
	a metallic bu	lk base;
25	directly on sa resistor to ex distance bety	olumn-shaped electroplated electrodes disposed aid metallic bulk base for connecting said sternal circuits and having a precisely controlled ween said electrodes for providing a precisely stance for said resistor.
30		

	(Twice Amended) 38. The re	esistor of claim 37 wherein:	
	said metallic bulk b	ase comprising a nickel-copper alloy.	
5	(Twice Amended) 39. The re	esistor of claim 37 wherein:	
		n-shaped electroplated electrodes further layer and a tin-lead alloy layer.	
10	(Twice Amended) 40. The re	esistor of claim 37 wherein:	
	1	ed resistance for said resistor ranging none milli-ohm to one ohm.	
15	(Twice Amended) 41. The re	esistor of claim 37 wherein:	
20	said metallic bulk base of said resistor having a thickness ranging approximately from 0.05 to 0.5 millimeters and a length ranging approximately from 1.0 to 7.0 millimeters.		
20	(Twice Amended) 42. The re	esistor of claim 37 wherein:	
25	metallic bulk base h approximately from approximately from	each of said column-shaped electrodes disposed directly on said metallic bulk base having a width and length ranging approximately from 0.1 to 3.2 millimeter, a height ranging approximately from 0.05 to 0.5 millimeters and distance ranging approximately from 0.4 to 6.2 millimeters between every two electrodes.	